



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/533,696

08/25/2006

Erling J Pedersen

18.02

6153

70624

7590

10/26/2009

Bachand Law Office

P.O. Box 54244

Phoenix, AZ 85078

EXAMINER

PAN, YUWEN

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

10/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,696	Applicant(s) PEDERSEN ET AL.	
	Examiner YUWEN PAN	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 28-32 and 47-54 is/are pending in the application.
- 4a) Of the above claim(s) 28-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 47-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-15 in the reply filed on 08/16/09 is acknowledged.
2. The examiner acknowledges the new claims 47-54.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 9-15, 47-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahl et al (US005448753A, hereinafter Ahl) in view of Xu et al (US006907246B2, hereinafter Xu).

Per claim 1, Ahl discloses a method performed by a subscriber platform for communication with other subscriber platforms, the method comprising: a. determining a first tiling pattern (see figure 15b item 26 and 27, orientation of antenna beams). Ahl does not expressly teach that the tiling pattern associated with a respective set of sector allocation patterns stored in the subscriber platform, each sector allocation pattern associated with a respective set of channels; b. selecting a first sector allocation pattern from the set of sector allocation patterns associated with the selected tiling pattern; and c. communicating with the other subscriber platforms in accordance with the set of channels associated with selected sector allocation pattern. Xu teaches such limitations (see figure 2 and 5 and corresponding

Art Unit: 2618

paragraphs). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Xu with Ahl in order to increase the load capacity of a cell.

Same arguments apply, *mutatis mutandis*, to claims 14 and 15.

Per claim 2, Xu further teaches that the first tiling pattern is determined in accordance with a set of tiling patterns stored in the subscriber platform (see column 4 and lines 11-23, the channel of its located sector with corresponding orientation of antenna beams).

Per claim 5, combination of Xu and Ahl further teaches a. each respective channel has a respective direction; and b. the method further comprises: (1) determining a reference direction and (2) communicating with the other subscriber platforms in accordance with the selected allocation pattern oriented in accordance with the reference direction (see Xu, column 3 and lines 43-column 4 and lines 22). Such combination does not teach the determination of direction based on magnetic compass. The examiner takes an “Official Notice” that it is notoriously well-known to determine a geographical position or direction by using magnetic compass. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have this additional feature in order to determine directions in various ways. The utilization of compass is one of kind.

Per claim 9-11, combination of Xu and Ahl further teaches a. receiving indicia of a second tiling pattern via a channel of the first set of channels, the second tiling pattern being

Art Unit: 2618

associated with a second set of sector allocation patterns stored in the subscriber platform; and b. selecting a second sector allocation pattern from the second set of sector allocation patterns, the second sector allocation pattern identifying a second set of channels; and c. communicating with the other subscriber platforms in accordance with the second set of channels, discontinuing communication in accordance with the first set of channels, and communicating via the first set of channels a request for the indicia of the second tiling pattern (see Ahl column 3 and lines 44-column 4 and lines 35).

Per claim 12, Ahl further teaches that a. determining a first communication range via communication in a first sector of the selected sector allocation pattern; b. determining a second communication range via communication in a second sector of the selected sector allocation pattern, the second communication range being greater than the first communication range; and c. communicating with the other subscriber platforms using less than all sectors of the plurality (See figure 15b, column 3 and lines 44-column 4 and lines 35).

Same arguments apply, *mutatis mutandis*, to claim 13.

Per claim 47, combination of Ahl and Xu further teaches that each tiling pattern comprises at least four sector allocation patterns of the set of sector allocation patterns (see Xu figure 5, show 6 sector); and each sector allocation pattern comprises a respective first pair of sectors for communication via a respective first communication channel (channel reuse within a cell), the respective channels being members of a third set of three communication channels (see Xu figure 3 and figure 5).

Art Unit: 2618

Same arguments apply, *mutatis mutandis*, to claims 49, 51, and 53.

Per claim 48, combination of Ahl and Xu further teaches that the set of sector allocation patterns comprises at least six unique sector allocation patterns (see Xu, figure 5 and corresponding paragraphs). Since the tiling pattern is the orientation of antenna beams and depend on the geographical location of other subscriber platform, there are at least six different tiling patterns with corresponding sector allocation patterns based on the channel allocation.

Same arguments apply, *mutatis mutandis*, to claims 50, 52, and 54.

5. Claim 3, 4, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahl and Xu as applied to claim 1 above, and further in view of Dent (US006415162B1).

Per claim 3, combination of Ahl and Xu further teaches a. each respective channel has a respective direction; b. each sector allocation pattern has a geometric relationship among the directions of the channels of the associated set of channels (see Xu, figure 5 and corresponding paragraphs). The combination does not teaches determining a first received signal strength by receiving via a first channel of the set associated with the selected sector allocation pattern; (2) determining a second received signal strength by receiving via either the first channel or via a second channel of the set associated with the selected sector allocation pattern; and (3) determining a reference direction of an antenna beam for at least one channel of the set associated with the selected sector allocation pattern in accordance with the first received signal strength, the second received signal strength, and the geometric relationship of the selected sector allocation pattern; and (4) communicating with the other subscriber platforms in

Art Unit: 2618

accordance with the selected allocation pattern oriented in accordance with the reference direction. Dent teaches intersitial sector approach (see column 2 and lines 32-column 3 and lines 17) to determine the peak beam direction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the reference to improve the receiving characteristics.

Same arguments apply, *mutatis mutandis*, to claims 4 and 6 (since the utilizing of feedback is well-known in the power control for the wireless communication art, indirectly, the determination of direction is in accordance with the feedback signal information).

Per claims 7 and 8, it is further obvious to one of ordinary skill in the art to allow a user of the subscriber platform to manually adjust the antenna in order to change the orientation of the antenna beams such that a better reception would be formed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either automatic or manual control to a device in order to allow user have more choices of controlling the subscriber platform.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for detail.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUWEN PAN whose telephone number is (571)272-7855. The examiner can normally be reached on 8-5 M-F.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuwen Pan/
Primary Examiner, Art Unit 2618